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The deal-making process requires entrepreneurial actors to create and maintain wide networks of weak ties while simultaneously developing stronger collaborative ties that will enable opportunities to be realized. We currently lack an adequate account of how these activities are integrated by deal-makers under conditions of risk and uncertainty. In an empirical study of deal making in early-stage technology ventures, we find that deal-makers rely on different forms of trust in the early and later phases. Based on this study, we develop a process model and propositions on the role of trust in integrating strong and weak ties in deal making.

Introduction

Deal making is a process, involving multiple phases (Tyebjee & Bruno, 1984), through which different entrepreneurial actors secure resources (make deals) in pursuit of entrepreneurial opportunities. Relevant actors (henceforth "deal-makers") include innovators, investors, and financiers, and professional intermediaries such as lawyers and technology transfer officers (Payne, Davis, Moore, & Bell, 2009; Uzzi, 1999; Vohora, Wright, & Lockett, 2004). In this paper, our focus is on deal making as a social process (i.e., encompassing those features of deal making not explicable in terms of narrowly economic mechanisms (Eckhardt & Shane, 2003; Venkataraman, 1997) involving the creation and exploitation of social ties. As such, deal making is viewed as encompassing two major strands of activity. First, deal-makers are engaged in *selecting* particular ties

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from a large number of weak ties available at the outset of the process (Karnoe, 2004; Macmillan, Zemann, & Narasimha, 1987). As previous studies indicate, deal-makers have to make decisions about a large number of propositions that are still at a formative stage and that often lack clearly defined routes to production and market (Fiet, 1995; Mason & Harrison, 1999). In selecting from such ties then, the deal-making parties often lack first-hand, personal experience and may possess relatively little solid, verifiable information about each other (McKnight & Chervany, 2006). The ratio of ties selected to those rejected, thus, tends to be very high, with estimates ranging from one in 20 (Mason & Harrison, 1994~~; Riding et al., 1993~~) to one in 3,000 (Stevens & Burley, 1997) initial ideas actually proceeding to negotiation in the United States and the UK.

Second, deal-makers need to *develop* strong collaborative ties that will support the intensive information exchange and joint problem-solving required between the parties (Auerswald & Branscomb, 2003; Shepherd & Zacharakis, 2001). As the development of stronger ties necessarily takes place over time, it helps establish a temporal order for the deal-making process (Harrison, Dibben, & Mason, 1997). Thus, the selection of ties in an early phase of deal making is followed by a later phase in which deal-makers ~~support~~ stronger dyadic ties that support collaboration and negotiation, and ultimately either exit from the tie or achieve successful completion (Eckhardt & Shane, 2003; Fried & Hisrich, 1994).

Previous work has developed a range of perspectives on this process. Some studies focus on the decision-making criteria that investors apply to the selection of ties (e.g., Wright, Lockett, Clarysse, & Binks, 2006). This work helps us understand the "filters" that are applied to the selection of ties (Hall & Hofer, 1993; Maxwell, Jeffrey, & Lévesque, 2011). Other work emphasizes the means by which entrepreneurs secure resources through the information signals that they send to potential investors, thus highlighting the importance of information exchange within the process (Ahuja, 2000; Dushnitsky, 2010; Spence, 1974). A further strand of work addresses the development of a particular collaborative tie between entrepreneurial actors (Shepherd & Zacharakis, 2001).

In this paper, however, in response to recent calls in the literature (Welter & Smallbone, 2006; Zahra, Yavuz, & Ucbasaran, 2006), we seek to integrate and extend this existing work by addressing the role of trust in the deal-making process. To date, the great majority of previous studies have addressed this role in the context of the stronger, dyadic ties of the later phases of the deal-making process (e.g., Larson, 1992; Liao & Welsch, 2005; Payne et al., 2009; Tyebjee & Bruno, 1984), and especially the collaborative and monitoring relationships post-investment (e.g., Harrison et al., 1997). Relatively few studies have examined the role of trust in the selection of weak ties in the early phase (e.g., Welter & Smallbone). This division within existing work means that little attention has been paid to one of the most important practical and theoretical challenges posed by deal making, namely the question of how deal-makers maintain and integrate the networks of weak and strong ties involved in accessing and realizing opportunities. This challenge comes about because, on the one hand, the pursuit of opportunities requires deal-makers to devote significant time and resources to the wide network of weak ties needed to seek opportunities, and to obtain nonredundant information (Granovetter, 1973; Harrison et al.; Uzzi, 1997). On the other hand, deal-makers need to concentrate their resources on developing the dense networks of strong collaborative ties capable of realizing such opportunities (Greve, 1995).

The challenge of integrating these networks within finite resources poses some broad theoretical questions about trust and the role that it plays in deal making. A widely accepted definition of trust is "the intention to accept vulnerability upon positive

expectations of the intention or behaviour of another" (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 401). One question that arises is whether, and how, trust supports deal-makers' ability to efficiently balance the conflicting demands of these networks of weak and strong ties. Uzzi (1997) has highlighted the time economies and collaborative advantage created by the trust that emerges within strong, embedded ties. However, we know relatively little about the role of trust in the process by which certain weak ties become strong, collaborative ties. Previous work in entrepreneurial settings has failed to address this role adequately because it has been primarily concerned with the development of existing ties, thus failing to embrace the deal-making process as a whole. To address these issues, we set ourselves the broad research aim of exploring the role of trust throughout the deal-making process, including both the selection of ties in the early phase and their development in the later phase. In particular, we were concerned to identify how trust was built among deal-makers in different phases of that process, and the effect of such trust on the way ties were selected and progressed.

To explore these questions in more depth, we focused our study empirically on a setting that represents an extreme case for both the selection and development of ties, namely early-stage technology ventures (Eisenhardt & Graebner, 2007). As a result of the dynamic nature of technology and markets, deal making in this setting is characterized by shifting networks of weak ties that are a product of the creation and destruction of large numbers of new ties (Auerswald & Branscomb, 2003). At the same time, the commercialization of new technologies is subject to high levels of risk and uncertainty, helping
7 deter collaboration (Amabile et al., 2001; Faems, Van Looy, & Debackere, 2005; Goldenberg, Lehmann, & Mazursky, 2001). Yet deal-makers need to make significant investments in collaborative relationships to be able to evaluate and progress particular deals (Gans & Stern, 2003; Rost, 2011).

In this study, we found that trust was built in different ways in the early versus the later phase of the deal-making process. Also, deal-makers relied on these different forms of trust in deciding which ties to select and develop to a deal-making outcome. Based on the findings from this empirical study, we develop a process model of the role of trust that addresses some of the above-noted limitations of previous work. In particular, this view helps account for deal-makers' ability to integrate both the strong and weak ties needed for deal making, within finite resources of time and attention.

Trust in Entrepreneurial Settings

Trust has been viewed from a wide range of different ontological and epistemological perspectives, which have led to fragmentation in its conceptualization and a lack of integration across studies (Inkpen & Currall, 2004). These divisions in the literature are difficult to reconcile since, as McEvily and Tortoriello (2011) note, they also reflect the context-dependent nature of trust and the diversity of settings in which it has been studied. In relation to entrepreneurial settings, however, trust has been widely identified as a positive factor in helping entrepreneurial actors overcome the risk and uncertainty that afflict collaborative relationships in entrepreneurial settings (Welter, 2012). It is seen as limiting opportunistic behavior in collaborative relationships (Uzzi, 1996), reducing monitoring costs, and overcoming the information asymmetry between actors (Larson, 1992; Shane & Cable, 2002) by facilitating information transfer (Harrison et al., 1997; Payne et al., 2009; Sapienza & Korsgaard, 1996).

Despite the emphasis that is given to the positive role of trust in entrepreneurial activity, less attention has been paid to the question of how trust is built in different social

settings encompassed by such activity (Welter, 2012). Previous studies here have tended, as noted above, to focus on trust-building behaviors associated with the development of dyadic ties. Thus, Shepherd and Zacharakis (2001), for example, describe the emergence of trust in terms of a "gradual and incremental process of signalling commitment" in a dyadic relation between partners (p. 135). Relevant actions include signaling commitment and consistency, being fair and just, obtaining a good fit with the partner, and frequent and open communications. Similarly, Maxwell et al. (~~2012~~) describe a number of trust-building behaviors observed in face-to-face interactions between entrepreneurs and investors.

However, studies of trust building within a dyadic tie have struggled to explain the paradox of how trust can be built in the early phase, when deal-makers are confronted by many possible weak ties and information is very limited (Aldrich & Fiol, 1994; McKnight, Cummings, & Chervany, 1998; Zahra et al., 2006). Harrison et al. (1997) suggest that the notion of "swift trust" as found in temporary groups is relevant here, based on assessments of an individual's trustworthiness (Meyerson, Weick, & Kramer, 1996). Other studies seek to address this issue with reference to a cyclical process of trust building, which is initiated by an act of trust. Shepherd and Zacharakis (2001, p. 135), for example, argue that trust is initiated by "initial act of vulnerability" when "one party 'trusts' the other (makes themselves vulnerable to the partner's opportunistic behaviour)." Maxwell and Leveque (~~2012~~) similarly outline a process of trust building that begins with an investor "trusting" an entrepreneur.

The circularity implied by these "leaps of faith" (Mollering, 2006; Welter, 2012) seems an inadequate explanation for the competitive environment of early-stage technology ventures. More relevant to this setting are studies that acknowledge different forms of trust as applying to different social situations. One highly influential framework here is provided by Zucker (1986), who identifies three major "modes" of producing trust. First, "institutionally-based trust" is defined as the product of formal mechanisms, including, for example, the educational system, professional bodies, and regulation and legal institutions. Because this type of trust "does not rest on personal characteristics or on past history of exchange" (p. 61), it may be signaled via limited, but specific, information. Second, "characteristic-based trust" is seen as the product of social similarities, such as family background and gender, and only requires "information concerning social similarity" (p. 61), on the basis that others with similar characteristics will share background understandings, smoothing exchange paths. Third, process-based trust is seen as produced through a record of exchange between actors, and requires "a considerable amount of person-specific information" (p. 60). In outlining these different "modes" then, Zucker's analysis relates forms of trust to the information that actors can acquire about each other, dependent on their relative positioning within particular social and institutional contexts.

Building on this and other typologies of trust, other authors have developed a processual perspective that relates the building of trust to the staged development of social relationships. Lewicki and Bunker (1996), for example, argue that "trust develops gradually as the parties move from one stage to another" (p. 124), taking on a different character in the early, developing, and mature stages of a relationship. In broad terms, they see trust within a dyadic tie shifting over time from a calculative to a relational basis, encompassing the following forms of trust: "calculus-based" (a calculation of costs versus benefits of the tie), "knowledge-based" (involving a history of interaction that supports mutual knowledge), and "identification-based" (where parties understand and appreciate each other's wants).

To address the role of trust in the particular empirical setting of the deal-making process, we adopted an inclusive approach that sensitized us to the different forms of trust highlighted above, as well as to the processual dynamics highlighted in previous work.

Methodology

Research Design

Despite consensus in the definition of trust, it is widely seen as a difficult concept to operationalize in empirical work (Currall & Judge, 1995; Neergard ~~et al.,~~ 2006). This is partly because of the different theoretical perspectives applied to trust (Kramer, 1999), but also because trust is a context-dependent and largely tacit phenomenon that manifests itself in different ways according to circumstances (McEvily & Tortoriello, 2011). Surveys and experimental techniques are subject to a number of limitations in terms of their ability to explore the dynamics of trust development in context (Welter & Smallbone, 2006). Alternatively, when highly consequential case studies are examined (e.g., Neergaard & Ulhøi, 2006), generalizations of trust may be impaired by the idiosyncratic features of a given deal process.

Given these challenges, and the lack of previous studies of trust in this particular empirical setting, we chose an inductive, qualitative study design based on interview techniques (described below) in order to explore trust (what builds trust as well as its outcomes) in the deal-making process. Our first challenge was to decide how to operationalize trust in our study. Some writers view respondents' explicit references to trust, in interviews for example, as relevant evidence (Uzzi, 1997). However, such references are not only subject to social desirability bias (Welter, 2012), but also tend to be associated with close, embedded ties—ties that may not necessarily be characteristic of early deal making. A recent study of investors and entrepreneurs (Maxwell & Lévesque, 2011) suggests that trust may be more observable when viewed in terms of concrete decisions and behaviors (e.g., "trust-building" or "trust-damaging" behaviors). Trust itself was operationalized in this study as a "decision variable," whose operation could be inferred from decisions to accept risk by pursuing or not pursuing particular ties in response to entrepreneurs' behaviors.

In line with this approach, and to ground the concept of trust in our study, we decided to couple two well-established approaches used in the social sciences to explore novel phenomena and process: grounded theory (Glaser, 1998; Lincoln & Guba, 1985) and the critical incident technique (Glaser & Strauss, 1967; Neergaard & Ulhøi, 2006). Key informants were asked to describe specific deal-making processes, both those that had been successful and those that had been unsuccessful or abandoned. We then focused on critical incidents; that is, specific instances where decisions to progress in, or withdraw from, the deal-making process were discussed. These incidents would provide useful data on actors' acceptance of risk at different phases in the deal-making process. At the same time, such incidents also help contextualize the acceptance of risk by relating this to the other actors and the information exchanged. Our detailed methods follow.

Data Collection

Data collection began with a preconception stage (Glaser, 1998), the goals of which were to identify the general elements of the deal-making process and guide the development of the interview schedule for the second stage. Nine informants were recruited for "grand-tour" interviews (Spradley, 1979), of 1.5 to 3 hours, where they were asked open-ended questions about the deal-making process, and the variety of key actors, artifacts, and practices "typically" associated with entrepreneurial deal making. These informants had long-established careers in technology venturing and substantial experience in various entrepreneurial roles. From these interviews, we collated comprehensive lists of actors and artifacts, and developed a general process description of deal making

itself. We went from the accounts given by these key informants back to the themes identified in the literature to ensure that our interview schedule for the second stage was sufficiently open and inclusive.

The second stage began by developing our semi-structured interview template (Kahn & Cannell, 1957), in which we used the critical incident technique (Chell & Allman, 2003; Flanagan, 1954; Spradley, 1979). Here, deal-makers were asked to outline multiple examples of early-stage technology investments encompassing all phases of the deal-making process, ranging from those that had not gotten beyond initial contacts through to those that achieved successful commercialization. Interviewers generally discussed three salient examples of deals: (1) a deal process that went very well, (2) a deal process that went very poorly, and (3) a deal process that was terminated early. Some respondents discussed more than three deal processes. We recognize that deal making is usually a lengthy process. The advantage of focusing on "incidents" here was, thus, not to refer to a single discrete event but to focus our respondents on different concrete processes of decision making that they had experienced.

We conducted 27 interviews with deal-makers, each lasting around 1 hour (average) and conducted in the workplace of the informant. The interview template comprised two main sets of questions: (1) questions on phases—on finding opportunities and preselecting, or deselecting, potential partners, and on selecting and further developing (or abandoning) and securing the deal; and (2) questions on practice and processes—on what were the biggest factors (kinds of information and features of the key actors) that led deal-makers to pursue a deal further (or not).

Because trust is an abstract and value-laden concept (Welter & Smallbone, 2006), we did not encourage interviewees to discuss it directly, although a number did spontaneously address it. Rather, as noted above, we tried to observe trust through informants' explanations of the factors leading to their decisions to proceed (or not) on a deal (i.e., to accept or reject risk). Of course, these often included factors that were not much concerned with trust—for example, simply that the technology was "bad" or that "there was no market for it." While these are of course important, our focus is on trust-based accounts. To check for interviewee bias in such accounts, however, we also probed as to whether more straightforward technology or market/economics-based explanations could instead be sufficient to explain their decisions. For example, a venture capitalist (VC), when probed on how important the technology was in progressing the deal, responded:

> Actually I think more than anything it's judging individuals. So, more than anything, you back people, and this is where I come back to, what is the right background of an individual? I'm not sure it's completely obvious because I think more than anything VCs have to judge people. I can buy in expertise on the technology.

All interviews were recorded and transcribed, resulting in 267 pages of usable transcripts and stories of around 90 different deals. Purposeful sampling was used to identify respondents with a high level of deal-making experience, so as to avoid idiosyncrasies due to lack of expertise (Fiet, 2007). Informants were identified through a combination of targeted (e.g., via professional bodies) and snowball sampling, including from contacts identified in the preconception stage. Our sample, thus, included members of professional bodies in the areas of technology transfer, venture capital, and angel investors. Of the 36 total informants, 8 were currently entrepreneurs, 6 were technology transfer officers, 6 were in corporate business development and licensing, 5 were angel investors, 4 were corporate VCs, and 7 were traditional VCs. The study was carried out with a sample that included deal-making actors in the UK and the United States. The role of national context

is not the focus of the present paper, however, except to note that, in relation to trust, our study did not indicate obvious differences between the two contexts.

Data Analysis

To analyse and present our findings (below), we deploy established grounded theory techniques used to good effect previously (in particular, Gioia, Price, Hamilton, & Thomas, 2010; Pratt, Rockmann, & Kaufmann, 2006; Uzzi, 1997). Our analysis aimed at identifying key features entailed in building (or breaking) trust in deal-making ventures and at linking these features to the different phases of the deal-making process.

To analyse key features of trust building in the deal-making process, we began by identifying in our data set all of the statements that addressed the informants' reasons for progressing (or terminating) deals and/or ties with other actors via open coding (Locke, 2001). Given the particular purpose of this paper, we then focused on statements that pertained to trust-based reasons/accounts (rather than more narrow economic concerns—see above). We then organized our data by drawing together similar kinds of statements to form provisional categories (first-order codes). These broader categories were adjusted periodically throughout the analysis until no further amendments or additions emerged. For example, statements such as "the first step is to judge their CV," "I checked her credentials and thought 'these look impressive,' " "a red flag is when they don't seem to know the business" were grouped together under the first-order code "credibility/competence of the individual." During this process, we compared emerging themes with initial expectations from the literature, retaining some and abandoning others, in order to produce our emerging framework (cf. Uzzi, 1997).

We then moved to axial coding (Strauss & Corbin, 1990), integrating first-order categories into higher order, researcher-induced themes pertaining to the role of trust in deal making. For example, first-order categories relating to "individual credibility/competence," "team and/or company credibility/competence," and "other (weak and strong) ties verify credibility" were grouped together into the theoretical theme of "assessment of credibility/competence." Having determined a potential framework, we again went back to the literature and reexamined how far the original categories fitted with our emergent theoretical understanding (Glaser & Strauss, 1967; Locke, 2001). For example, our observations around the importance of institutional signals chimed well with the concept of institutionally based trust discussed by Zucker (1986).

Having identified features of trust building across the deal-making process, we moved to a comparison of process phases to see whether, and how, the role of trust varied across phases. Our "grand tour" interviews, supplemented by the existing literature, had revealed a set of steps typically taken in the deal-making process, ranging from opportunity identification and initial preselection of potential partners through evaluation of the merits of a chosen idea to deal finalization. To ease comparison and theorization, we reduce these for analytical purposes to two key phases, or episodes, in the deal-making process: early phase and later phase (see Table 1). The early phase entailed the initial identification and preselection of deal-making opportunities to the point where a decision was made to put more time into pursuing a particular tie. Passages in deal-maker interviews (incidents) were, thus, labeled as "early phase," where they encompassed statements regarding investment opportunities coming to the attention of investor, the initial screening of potential ties, and initial decisions by investors on whether (or not) to preselect and put more time into investigating a particular tie. The "later phase" entailed the further development and evaluation of the merits of a particular preselected tie, including assessment

Table 1

Activities at Different Phases of the Deal-Making Process

Activity	Artifacts	Actions	People/expertise
Early phase			
Opportunity identification/ creation	Papers, patents, technical data, power point slides, business plans	E-mail, phoning, websites, triage	Business development, technology broker, entrepreneurs, high legal expertise (for lawsuits)
Introduction/facilitation	Business cards, contract template, nondisclosure agreement	Referral, conference call, meeting, face to face, facilitation	Broker, moderate technical expertise, low legal expertise, senior management figure
Later phase			
Evaluation	Term sheet, confidential information, performance data, spreadsheets, prototypes, patent applications	Proposing, combining general terms with specific case	Contract specialists, high technical expertise, business and financial expertise
Initial negotiation of contract	Draft contract with terms	Negotiating between parties, fluid across boundary discussion	Moderate business and legal expertise
Revision and completion of contract	Revised and final contracts	Reviewing negotiations, trouble shooting, accepting and signing if problems overcome	Senior business and legal expertise

of the tie and its proponents, development of the business plan, due diligence, and negotiations on the contract for a deal (cf. Riding & Orser, 2000).

Following the approach taken by Uzzi (1997), we performed a "cross-site display" by looking at the frequency of references to different trust features identified in the first step of our analysis (first-order codes) for incidents labeled "early" or "later" phase. While we are aware that this kind of data reduction approach loses data richness, it does provide additional evidence to support our emerging framework on the role of trust in the deal-making process (Uzzi).

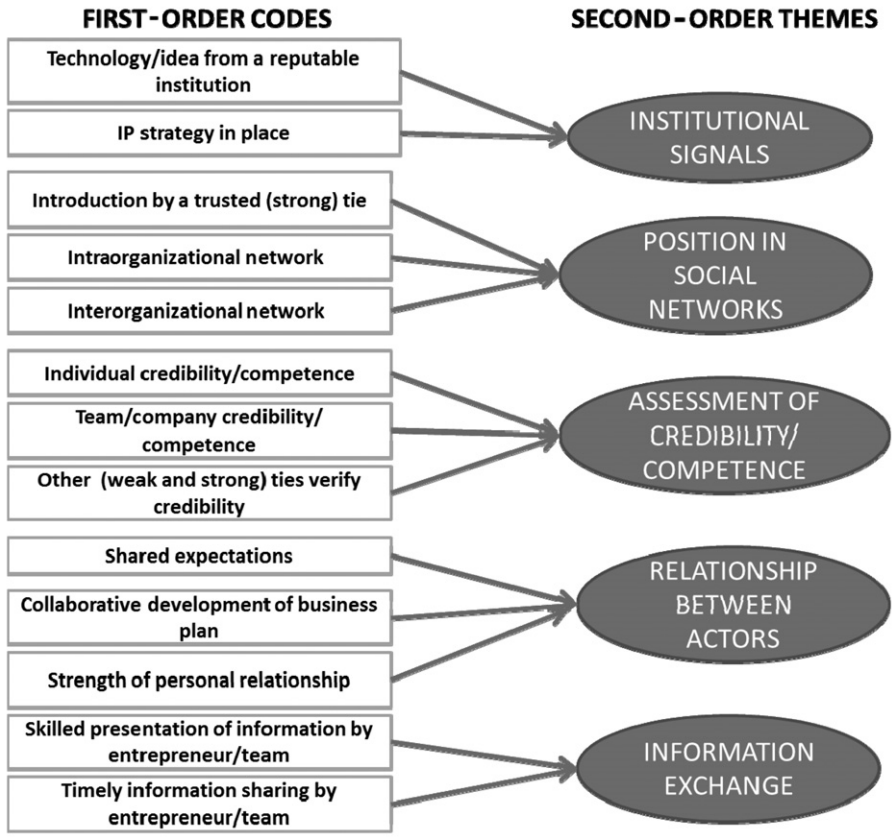
Data Reliability

To try to ensure reliability in our analysis and resulting findings (cf. Lincoln & Guba, 1985), we followed the twofold approach described by Gioia et al. (2010), based on "peer debriefings" and "intercoder agreement assessments." With respect to intercoder assessments, one author took primary responsibility for coding, but in discussion with a second author who had also been directly involved in the interviews. This provided an opportunity to discuss the scope, refinement, and labeling of codes, as well as any ambiguities in the data, and helped establish reliability, prior to one author completing the coding of the data. A representative sample of transcripts was then coded independently by two of the authors using the first-order codes developed for the data set as a whole. Following this, a selection of first-order categories were independently sorted into second-order themes. The level of agreement reached on coding for the 13 first-order codes was 81%, and overall for the five second-order themes, a level of 85%—levels that are deemed acceptable for this type of study (Boyatzis, 1998; Miles & Huberman, 1984).

Identification of phases was also discussed between two of the authors on a sample of the incidents in order to check that the point between early (preselecting) and later

Figure 1

Features of Trust Building: First-Order Codes and Second-Order Themes



(selecting/developing) could be reliably ascertained in our data, and also that it provided a reasonable point in the overall process to compare and contrast. With respect to peer debriefings, one of the authors played a more detached "outsider" role in relation to data analysis, and so was sometimes able to point to "gaps" or alternative explanations in the findings.

Findings

Features of Trust in Deal Making

Figure 1 shows the final structure and ordering of our coding scheme (first-order codes and second-order themes) for features of trust building found to be salient in interviewees' accounts of deal-making incidents. Table 2 provides illustrative examples from the data of these major themes that emerged from our analysis. This analysis identified five important features of trust building in the deal-making process:

1. Institutional signals—that is, trust based on formal institutions and institutional mechanisms, not dependent on personal characteristics or a previous history of exchange (e.g., ties in high-status institutions or grounded in formal IP processes).

Table 2

Features of Trust Building in Deal Making (Selection and Development): Illustrative Data

Sources of trust building	Illustrative examples from the data
Institutional signals	
Technology/idea from a reputable institution	I think the fact that the technology comes out of a university is a very good starting point. . . . You know, you tell me someone's on the faculty at a decent university, I'm going to listen.
	So I need to go to the best universities in the world and see what they have . . .
IP strategy in place	Well, if we knew there was going to be a red flag in the way [referring to IP] from the start—you know, someone was going to put a stranglehold on us—clearly we wouldn't go with that.
	Very first thing we did was check is the idea defensible with patents.
Position in social networks	
Introduction by a trusted (strong) tie	It was basically just friends and family, so it was personal connections.
	How I found out about X was from a professor friend of mine made a business trip to London. He is a professor at Imperial College, and he said oh, there is this guy you should meet . . .
Interorganizational networks	OK, so number one put yourself out there in a position where you can see deals and where people might even come to you. So not only are you out there networking, looking, but you're in a position where they know and trust you.
	People came to me at Top University (pseudonym) not only because of my title and position and success but because other inventors would say to them, here's a person you can talk to who's going to be honest and fair and direct.
Intraorganizational networks	We put together a preview paper to give colleagues—a kind of heads up—and took soundings on the back of it, "did this look interesting?", "should we be spending more time there?" and there was a colleague in the US who knew some of them also . . .
	. . . there was a nagging doubt in my mind [about a promising deal] because the company had been around for four, five years and still had pretty poor traction in the market. So I contacted colleagues and asked for their view—just a quick kind of email . . . So, you know, within 48 hours, after one presentation and a quick kind of sanity check with colleagues we rejected it.
Assessment of credibility/competence	
Individual credibility/competence	A red flag in selecting someone is if he doesn't know what's going on in his industry. If he is in, let's say, blade computing and I ask him how his product compares to three or four others and he doesn't know who they are, that means he hasn't kept up. . . . If he says, "this is a product that Goldman Sachs and CSFB need because of XYZ on their trading floor" and he's got that pretty right, I'm willing to listen to some more.
	I want to know who the person is. I want to know if he knows the people that I know . . . or is he just describing a problem from 30,000 feet and doesn't particularly know the answer. . . . You know, maybe he lacks domain knowledge.
Team and/or company credibility/competence	I have to verify every statement you say and if it's a great company, and I'm sure it will be, it won't even matter if it turns out to be a bad company and then people are going to say, did you do your due diligence and if I didn't do it then I ought to be taken out and hanged.
	I want to check out everything about the team. I want to find out, do they work together?. . . . And, if I find things that I don't like, I'll walk . . .
Other (weak and strong) ties verify credentials	There was a colleague in the US, a guy called David Silver, in particular who knew some of them also, the semi experts. I forget his background; prior, I think he was actually investment banking, but he's got a good background in the whole semi space. Yes, so he helped out with the due diligence.
	In parallel in terms of our due diligence on the opportunity, we met with potential customers. So, I flew to Scotland with the team and met a potential customer.

Table 2

Continued

Sources of trust building	Illustrative examples from the data
Relationship between actors	
Shared expectations	Logically that's the time you start thinking "how is this deal going to work?" It was only at that point, when we got into the licensing deal, when we began to realize that our expectations and their expectations were opposite. We just were pointing in opposite directions. There was no basis for negotiation or compromise so we had to say goodbye.
	If you get to the point where you and the entrepreneur have a shared vision about how the future could roll out, then you've got a couple of options . . . Then we just pick up the phone and start networking.
Collaborative development of business plan	So, we introduced John to the team; he got on phenomenally well with them; saw the opportunity, and actually took on an interim CEO role. So, that probably would have been March, April, 2002. So, that was one thing; so, John then worked alongside the guys putting the business plan together.
	When we get a proposal, it's nearly always, "here's a scientific paper, a patent and a scientist," and the commercial bit has to be built. So, if we have a commercially-minded scientist, it helps because he can say, "I can see the potential for my invention to do this." If he can't see it, we will try and find people from the industry as consultants who can. If, at the end of the day, none of us can see a commercial opportunity, that's when we stop.
Strength of personal relationship	Generally, I don't think it makes a huge amount of sense to do venture capital deals very, very fast. It's important for us to get to know the entrepreneur and to get to trust the entrepreneur. It's important for the entrepreneur to get to know us and get to trust us.
	If we can't get comfortable with the people and feel that we can work with them, we would quite quickly decline the opportunity because, particularly, when you're investing at a very early stage in a business, the impact of personalities and personal chemistry on the success of the business is disproportionately high.
Information exchange	
Skilled presentation by entrepreneur/team	The PowerPoint is a very, very important tool. You know, we're like a customer, you know? . . . the presentation becomes very skilled, and we do see where there's some weak points very quickly.
	Unless you have them personally articulate what they're trying to achieve, whether it's in a conversation or a PowerPoint, or whatever, you have no idea what you're working with, because really it's, at this stage, all about the people.
Timely information sharing by entrepreneur/team	I said, "you know, run rate's a very strange metric because if someone gave you $1.50 three seconds ago, on a run-rate basis that could be $6 million. I want to see the books." "No, I can't show you the books." I said, "well, you have $6 million of my money. I have to look at the books. I have to verify every statement you say." We turned down the deal. The next VC came along and the firm said "Oh, we better show people our books" and they did and they made a fortune.

2. Position in social networks—that is, trust based on an actor's membership and position in relevant social networks, including (passive) introductions from other trusted (strong) ties in an actor's network (e.g., referrals from friends and family), and more proactive involvement and information seeking in interorganizational and intraorganizational networks of weak ties (e.g., e-mailing colleagues or external contacts to see whether they see potential in an idea or partner).
3. Assessment of credibility/competence—that is, trust based on a positive assessment of the competence and credibility of an individual entrepreneur and/or their team or company, including prior experience, skills, personal and professional background and

domain knowledge, as well as verification of their credentials by other ties (e.g., due diligence on a management team or company, verification of specific competencies by involving another expert with domain knowledge).

4. Relationship between actors—that is, trust based on the strength of the interpersonal relationships between actors, including their ability to collaborate on the development of a business plan, shared expectations, and the strength of the interpersonal relationship (e.g., being willing to work together in putting a development plan and contract in place, sharing expectations about the terms of the relationship).
5. Information exchange—that is, trust based on the timely exchange of information and the ability of the entrepreneurs to present that information in a skilful and timely manner (e.g., the ability of the lead scientist to articulate the key idea and its commercial potential). Notably, while the content of information on the technology itself was of course important, this latter feature of trust was less about the technology per se, and more about strengthening the relationship between the investor and the entrepreneur through a visible demonstration of skill in "selling" the technology and showing willingness to share relevant information openly.

It is clear from our analysis that the trust that deal-makers relied on in progressing deals did not only come from dyadic relationships between actors or the information they exchanged (although these were undoubtedly important). Assessments of actors' competencies and credibility, as judged against relevant reference groups (e.g., those with "entrepreneurial skills," "business acumen," and "domain knowledge"), as well as their relative positioning within social networks, were also important facets of trust building. Other important features of trust, however, were institutionally based, and stood outside of the perceived characteristics, networks, and previous exchanges between particular actors. These institutional signals also played a key role in speeding investor decisions about the preselection and filtering of a few deals to pursue from the many ties available. They also helped investors decide where to look for potential deals in the first instance, with many references to "top institutions" and "decent places."

We can relate the features of trust building found here to previous research on the development of trust in interorganizational settings. This has highlighted, for example, the importance of trust building in processes of network formation (Ring & Van De Ven, 1994), and the importance of "competence" and "goodwill" forms of trust in the development of interorganizational research teams (Newell & Swan, 2000). Our findings resonate, in particular, with the previous work by Zucker (1986) outlined earlier. Thus, major features of trust building in our study (the second-order codes) broadly encompass all three modes of trust production outlined in Zucker's framework. In particular, the "institutional signals" identified in our study relate the distinctive features of our empirical setting (the importance of IP and scientific institutions, for example) directly to Zucker's notion of "institutionally based trust." Position in social networks speaks to the importance of social similarity and membership of shared networks as expressed by "characteristic-based trust." Similarly, our codes on positive information about the credentials and competencies of actors can also be related to characteristic-based trust. These assessments were drawn, at least initially, not from repeated interaction with entrepreneurs, but at arms length (e.g., reviewing a CV, or asking others to check out someone's credentials). They entailed judging an individual (or their team/company) against an implicit "ideal" type of entrepreneur (with such comments as "they just had the 'wow' factor"). The importance of the relationship between actors, in contrast, can be readily related to process-based trust as such relationships are the product of interpersonal interactions over time. Finally, the salience of information exchange in our coding can

Table 3

Summary of Cross-Site Evidence for Different Features of Trust in Early and Later Phases of Deal Making

		Early phase	Later phase
Institutionally based trust	Institutional signals (total)	74	16
	• Technology/idea from reputable institution	24	0
	• IP strategy in place	50	16
Characteristic-based trust	Position in network (total)	95	42
	• Introduction by trusted tie	18	2
	• Interorganizational network	34	10
	• Intraorganizational network	33	30
	Assessment of credibility/competence (total)	32	70
	• Individual credibility/competence	19	25
	• Team credibility/competence	1	33
	• Other ties verify credibility	12	12
Process-based trust	Relationship between actors (total)	7	71
	• Shared expectations	4	11
	• Collaborative development of business plan	0	28
	• Strength of interpersonal relationship	3	32
	Information exchange (total)	14	37
	• Skilled presentation of information/exchange by entrepreneur/team	10	29
	• Timely information sharing by entrepreneur/team	4	8

Note: Numbers indicate references to different features of trust building aggregated across interviewees.

also be related to Zucker's framework, inasmuch as her different "modes" emphasize the centrality of exchanges of information between actors as a means of producing trust.

While our findings do not map directly onto Zucker's categories—which is not to be expected given the specificity of our empirical setting—her framework is broadly accommodating of the findings from our inductive analysis. With due reference, then, to the particular nuances of our own analysis, in the remainder of this paper, we employ Zucker's framework as an inclusive vehicle for further conceptualizing (and labeling) the different forms of trust displayed by actors across the deal-making process.

The Role of Trust Across Deal-Making Phases

Table 3 shows the cross-site summary of frequency with which different features of trust were referenced in different phases of the deal-making process, aggregated across accounts of incidents by deal-makers. This indicates the relative prevalence of references to institutionally based trust (institutional signals) in the early phase, and in contrast to process-based trust (relationship between actors, information exchange) in the later phase of deal making.

With respect to characteristic-based trust (based on membership of social networks and assessments of competencies, as judged against reference groups), this was frequently discussed in both early and later phases. However, in the early, preselection, phase this typically entailed an actor "sounding out" potential ties with other members of their (intra- and interorganizational) networks of weak ties (i.e., "what do you think of this?") and/or

more coincidental referrals when coming into contacts with others (i.e., "you might want to check this out"). In contrast, the later phase typically entailed more in-depth assessments of the competencies and credibility of selected ties. However, if the relationship (i.e., process-based trust) strengthened between investors and entrepreneurs, this initial assessment of characteristic-based trust could be confirmed or questioned. For example, one investor reported a deal that she pursued despite concerns about the commercial competence of the lead scientists:

> First there were just two academics. Our referencing backed up the idea that globally they were leaders in the power semi-conductor space but they did not have the commercial background . . . the business plan they put together did not hold water, the projections were unrealistic, the financial requirements were unrealistic. But we introduced John [a local Chief Finance Officer] to the team. He got on phenomenally well with them, saw the opportunity, worked alongside them . . .

This interaction between trust based on assessments of competence (characteristic-based) and trust grounded in interpersonal relationships (process-based), while not the main focus of our analysis, echoes previous work on the role of trust in the development of innovation in interorganizational research teams (Newell ~~et al.,~~ 2000), and reflects Zucker's (1986) own analysis of the way in which process-based trust confirms, and is confirmed by, other forms.

In the following sections, we present our findings in a more narrative form, which allows us to develop propositions related to particular features of each deal-making phase.

Deal-Making Phases and Propositions

Early Phase. This phase encompasses, first, opportunity identification activities, including the involvement of a variety of deal-makers such as entrepreneurs, business development individuals, and brokers. The key artifacts circulated among them include papers, patents, technical data, PowerPoint slides, and business plans. These artifacts provide more codified and public forms of information, and are used to identify potential deal-makers. In this phase, potential deal-making opportunities are identified, sometimes via individuals providing referrals and acting as brokers, or by actively searching for deals in networks of weak ties inside or outside the firm. As one corporate business development executive put it:

> Some individuals come to us with ideas. Sometimes we have ideas of our own and we'll go to different markets and groups and say 'hey we really think you should spend some time working this area up.' And that sort of comes at the sort of wide end of the funnel. Sometimes ideas are crazy, and sometimes they're not so crazy, and through that we work up a number of pitches that we think are the ones we can develop business opportunities around.

Initial introductions and meetings typically then follow, where contact information as well as generic deal templates may be shared. Together, these activities comprise the earliest phase of the deal-making process and typically take only a few minutes to a few days.

We found that deal-makers were keen to interact with weak and potential ties in this phase. There was a concern to ensure "deal flow" through such contacts, with some VCs, for example, having meetings with up to 20–25 entrepreneurs a week. In this early phase, deal-makers were concerned with gathering and evaluating the institutional signals

associated with a variety of weak or potential ties. As outlined in Table 3, we found 74 references to such signals in the early phase, against ~~14~~ 1 in the later phase. Relevant institutional signals here included the presence of IP regimes, national institutions, legal systems, educational systems, professional bodies, quality, and sources of technology.

In this phase, social networks were widely seen as important in providing referrals. As one of our respondents observed, "Yes, clearly if a deal is introduced by somebody you know well and respect, then you're going to pay more attention to that than something which comes through from someone you don't know." As this suggests, referred ties were "given more attention" in the selection process. Thus, referrals helped provide the characteristic-based trust involving social similarity and shared understandings. As a U.S. VC observed of potential ties, "I want to know who the person is. I want to know if he knows the people that I know." In some cases, the involvement of a known individual was seen as significantly enhancing trust in the quality of a particular tie. One U.S. VC observed of a deal, for example, that "these were neat ideas, but the wow factor was, Daniel. Daniel's a huge wow factor, he's very, very smart and very credible in the pharmaceutical and the biotechnology industry."

However, in addition to these referrals, deal-makers often referenced an impersonal form of trust that could be built through information on a tie's positioning within the institutional context. Given the interest in early-stage technology, an important part of that context was affiliation with, or validation by, highly regarded institutions, which was seen as providing an assurance of scientific excellence or novelty. As one UK deal-maker put it, "First, there were very strong academic institutions in that area so lots of clever people dreaming up new things . . . then someone might have a good idea to patent the thing. But you've got to make it happen." Ties that failed to provide these signals of institutional trust were unlikely to be selected. As one U.S. VC explained, "If you tell me someone's been in his basement for ten years and has invented a perpetual motion machine, I'm probably going to be sceptical." Another VC in the UK commented on the role that a Tech Transfer Office could play in helping validate a new tie: "Our relationship (with the Tech Transfer Office) now is very much . . . they will phone up and say, 'we've got a project that looks like this, and it's sort of this shape . . . What do you think?' And if we say, 'well, sounds quite interesting,' then they'll start working."

The contrast in deal-makers' responses to weak or potential ties—ranging from "crazy" to "sceptical" and "interesting"—suggests that institutional signals are helping build their trust in the relative quality of particular ties, thereby influencing the selection of such ties from a wider pool. This institutionally based trust is a "swifter" form of trust in that the information signals around different weak ties are readily available via one-way information exchanges, and thus ties can be readily compared and assessed. These features of deal making in the early phase suggest the following propositions:

Proposition 1: In the early phase of deal making, institutional signals help build deal-makers' trust in the quality of certain weak ties relative to others.

Proposition 2: Weak ties that signal such institutionally based trust are more likely to be selected for further development.

Proposition 3: Weak ties that build characteristic-based trust due to their social network positions are more likely to be selected for further development.

Later Phase. The later phase of the deal process involves several distinct activities, centered on the evaluation and realization of the potential deal. Thus, at the end of the early phase, there is usually a scramble to pull together materials: both those that are publicly available, as well as proprietary information accessed via nondisclosure

agreements. This activity will involve reaching out to a number of parties that were not introduced at the beginning. Some will be investors, but many will be technical specialists used to assess the quality and value of the technology. Key artifacts exchanged here typically include deal term sheets, confidential information, performance data, spreadsheets, prototypes, and patent applications. At some point, evaluation gets to the point where a proposed term sheet for the deal is shared. This leads to often fraught and lengthy negotiations between and within the parties involved. If these negotiations are successful, the finalization of the deal can be quick (up to a week), but even during that time hidden information may come to light and have a significant impact on the deal.

In this phase of deal making, decision-making concerns shifted away from the selection of ties to the question of how more developed ties could be steered toward a successful outcome. As opposed to the arms-length arrangements and the multitude of weak ties found in the early phase, the later phase involved much closer collaborative, dyadic ties between deal-makers. The need for such ties was reinforced by the uncertainties attached to early-stage technology, requiring significant problem-solving efforts on the part of deal-makers. As one UK corporate business development executive described such collaboration, "We do our own research; they do some research; the tech transfer people do some research, and we sort of build a business plan together. But it's not always committed to paper. It's sort of committed into the strategy."

Building trust in the quality of these collaborative ties was no longer centered on the kind of information that could be freely signaled across weak network ties. For one, the information that is relevant in this phase is more personal, as deal-makers become intensively interested in the kind of person they are seeking to collaborate with. Even though a dyadic tie has now been developed, deal-makers need to do "due diligence" to be sure of the competencies and intentions of their potential partners. This interest is focused on those personal attributes that are most relevant to developing the collaborative tie. One U.S. VC explained how intensively they assessed individual entrepreneurs in this phase:

> I mean, we do criminal checks on the key management. I want to look over his CV. I want to be able to truly look up his ********. Has he . . . had wife or spousal abuse problems? I'll walk away from a deal. I'll walk away from a deal if I think the guy is 50 pounds overweight, smokes and has got a bad lifestyle, you know.

A UK VC summarized their concerns with the entrepreneur's personal attributes as follows: "What we're looking for is basically if the entrepreneur is up for the task . . . and that if he's going to be the type of person that can drive a business forward, so that there's a genuine desire to make a successful business." The personal qualities needed to "drive a business forward" were seen as important indicators of the quality of a collaborative tie. However, they could not be readily gauged from the objective, institutionally based information that might help deal-makers select from a pool of weak ties. It was not enough, for example, for a scientist to have a faculty position at a university. As one of our UK VCs put it, "The other things we look for . . . we've got to have the scientist who's committed and enthusiastic. If they see this as just a way of getting more grant funding, we're not going to take it further forward. . . . They've got to want to commercialize it, and they've got to have a bit of a commercial view about what's happening in the market."

As outlined in Table 3, process-based trust, thus, emerges as a much more significant factor in the later phase of deal making (a total of 108 references to related themes versus 21 in the early phase). This form of trust centered on the quality of these collaborative ties and was built through interpersonal relationships that developed over time, providing further information on the competence and reliability of other deal-makers. This information is specific to the tie because it relates not simply to a collaborator's competence

and intentions, but also how well this fits with their partner. As one UK VC put it, there needed to be a "connection"; "I think that in order for a venture capitalist to invest, usually there will have to be a level of trust, which connects absolutely, immediately. It will be either a slightly strange or an extremely masochistic venture capitalist who invested in circumstances where that were not the case." Reflecting this concern with fit, several deal-makers emphasized the need to feel "comfortable" with a collaborator as a precondition for further development of a tie. As one UK business development executive put it, "We were able to establish a good working relationship quickly. It didn't take a lot of socialising. It was just that we were the right size of company for them, they were right for us. The interpersonal chemistry worked, and worked very quickly."

A key consideration in determining the fit within these collaborative ties was matching deal-makers' expectations. Shared expectations helped build process-based trust as actors worked toward a common goal. Conversely, the emergence of conflicting expectations might lead to a breakdown in the relationship and exit from the tie. As one UK venture executive noted:

> We weren't comfortable doing business with them. They aren't a partner; that's the point. They weren't prepared to be a partner and that's OK. We were looking for a partner; they were looking to buy something in. It was just a wrong expectation.

In the later phase of the process then, deal-makers are developing a much smaller number of dyadic ties, and as evidenced by references to "comfort" and "chemistry," are concerned with the quality of collaboration secured by these ties. Private information is now being intensively shared between a small group of deal-makers, and this information, and the way it is shared (i.e., an actor's behavior being itself evidential), informs the emergence of process-based trust on the part of the deal-makers. In this phase, trust in the collaborative, dyadic tie is built through information on the competences and intentions of other parties (cf. Pollock, Porac, & Wade, 2004). It is important to note, however, that the vulnerabilities expressed by deal-makers in this phase were not to do with the trustworthiness of their partner per se, but rather their intention or ability to contribute to the collaborative quality of the tie. Process-based trust around these intentions and abilities had to be built gradually during the development of the tie.

Characteristic-based trust complemented the importance of process-based trust in this phase, as deal-makers assessed and confirmed the competence and credibility of collaborating parties through information drawn from social networks. Such networks were often exploited as a source of expertise to validate quality—drawing in "private information" on the collaborative quality of the deal (Shane & Cable, 2002). One UK deal-maker, for example, observed how an individual specialist was brought in to "really kick the tires of the technology and the architecture." In other instances, respected colleagues were involved in due diligence around a particular collaborative tie. Where a dyadic tie was found not to build trust in these ways, or such trust was breached—as, for example, by the discovery that expectations are mismatched—this could lead one party to "walk away from the deal," as one of our respondents put it.

These findings lead to the following propositions:

Proposition 4: In the later phase of deal making, reciprocal sharing of information on competencies, intentions, and expectations builds process-based trust in the collaborative quality of strong dyadic ties.

Proposition 5: The greater the process-based trust between the parties, the more likely that a dyadic tie will be developed toward a successful outcome.

Proposition 6: Dyadic ties that build characteristic-based trust through validation by deal-makers' wider social networks are more likely to be developed toward a successful outcome.

These propositions have important implications for our understanding of the role of trust in deal making. One important implication has to do with the impact of information exchange on trust building. Our propositions suggest that in the early phase of deal making, information builds trust in the relative quality of a weak tie by signifying something about that tie. This may indicate the symbolic importance of information exchanges over their substantive content—an observation that finds support from recent work on the importance of "symbolic management" for entrepreneurs securing resources (Zott & Huy, 2007). Even information exchanges that are apparently substantive in nature, such as the exchange of business plans, may play more of a symbolic role for new ventures (Karlsson & Honig, 2009). In the later phase, however, deal-makers are interested in the collaborative quality of a tie. At this point, the sharing of detailed private information required for collaboration, and the willingness and ability to share appropriate information, becomes an important ingredient in developing (or failing to develop) process-based trust.

This difference between phases makes the timing and form of information exchanges critical since information relevant to the collaborative quality of a tie, such as a business plan, may have a negative effect (signaling a lack of competence, for instance) if disclosed in the early phase when deal-makers are only concerned with the quality of a weak tie relative to others. One of our U.S. VC respondents, for example, described how in the early phase of evaluating a possible deal he had been sent a "massive tome, a 200 page business plan." He observed that "somebody had gone a little overboard," and that he had decided not to proceed with that tie.

This suggests a further proposition based on our study, as follows:

Proposition 7: Information exchanges that build trust in the ~~early~~ phase of deal making may have a neutral or even negative effect in the ~~later~~ phase.

Discussion

As outlined in Table 3, and in the narrative sections above, we found that forms of trust were differentially distributed across phases of the deal-making process. Taken together~~,~~ with our discussion of the means by which trust is built, these findings suggest an important analytical distinction between early and later phases of deal making, and between the different forms of trust that are built in these phases. This analysis is summarized in Table 4. The process view that emerges from our study can be contrasted with the tendency of previous studies of trust in entrepreneurial settings to focus on the dyadic relationship between the trustor and the trustee, where the underlying dispositions of the trustor and the trustworthiness of the trustee are highly salient (Maxwell & Lévesque, 2011; McKnight et al., 1998; Rotter, 1980). This interpersonal focus can be contrasted with the way our study situates the building and effects of trust within the dynamics of the deal-making process, and particularly decisions about the selection and development of ties under conditions of risk and uncertainty. The interpersonal aspect of trust only emerged later in that process, and even here it featured less in terms of the quality of personal relationships than as a consideration in assessing the collaborative quality of dyadic ties. This finding also reinforces the view that trust in persons is not

Table 4

Building Trust in Phases of the Deal-Making Process

	Early phase	Later phase
Primary [illegible] of trust in deal making	Selection of ties	Development of ties
Predomi[illegible]rms of trust	Institutional and characteristic-based	Process-based and characteristic-based
Information exchanges relevant to building trust	Information signaling across network ties	Information sharing between actors within a dyadic tie
Costs of adverse selection	Opportunity costs of other weak ties	Sunk costs of the developed strong tie
Sources of trust	Comparative, public information on the relative quality of a tie based on institutional factors and positioning in social networks	Tie-specific, private information on the quality of collaboration between actors within a dyadic tie, based on interpersonal interaction and validation by social networks

generalized, but is focused by particular situations and the decisions taken within them (Nooteboom & Six, 2003; Welter & Smallbone, 2006).

In presenting our propositions in relation to distinct phases here, we are not suggesting that the deal-making process unfolds as two discrete steps. Rather, the aim is to elucidate the dynamic and temporal ordering of that process through an analytical comparison of distinct points within it. For any given pool of weak ties, progression between these points is gradual and subject to high levels of attrition. And while selection concerns predominate in the early phase, and development in the later phase, these activities may coexist, depending on the setting, for the greater part of the process.

Information Exchange and Trust Building

In emphasizing the importance of information exchange over strictly relational means of building trust, our study builds on previous work that relates the strength of ties between actors to the quality or "bandwidth" of information exchanged between them (Rousseau et al., 1998). Thus, Hansen (1999) found that weak ties offered advantages for the exchange of simple (i.e., codified and independent) forms of information, while strong ties were more suited to the exchange of complex (noncodified and integrated) forms of information. Likewise, Uzzi and Lancaster (2003) found that weak ties were effective in providing access to "public" information, but strong (i.e., "embedded") ties were better equipped to handle "private" information. As they note, "Arm's-length ties prompt the transfer of comparative, objective, and unrestricted information, while embedded ties prompt the transfer of idiosyncratic, interpretative, and restricted information." (p. 393). In our study, we found that in the early phase, deal-makers were able to use information that was highly codified and compressed to confirm or disconfirm trust, helping make rapid selections from among a large pool of weak or potential ties (cf. Hansen & Haas, 2001; Shepherd & Zacharakis, 2001; Uzzi, 1997). In the later phase, the stronger ties between deal-makers helped mitigate concerns about the opportunistic use of information (cf. Uzzi, 1996), and supported more reciprocal exchanges of complex forms of information within the tie—what Uzzi (1997) terms as "fine-grained information transfer."

Our study suggests that this association found in previous studies between the strength of ties and the bandwidth of information exchanges can be extended to

encompass the function of such exchanges within the deal-making process. Thus, in the early phase, we find *information signaling* through the use of codified, public forms of information. Because these information signals lend themselves to ready distribution and comparability, they help build an institutionally based form of trust that informs the rapid and low-cost selection of ties. In the later phase, however, we see a greater emphasis on the intensive and reciprocal *sharing* of private information through the bandwidth of a stronger dyadic tie. This serves to contextualize and personalize information exchanges. For more developed ties, this sharing of information seems to be closely intertwined with the emergence of process-based trust, helping activate what has been termed a "cooperative logic of exchange" between the parties (Uzzi & Gillespie, 1999, p. 33).

One further important implication of our analysis and propositions is to suggest a resolution for the paradox of tie development discussed earlier; that is, how trust is built in a weak tie in the early phase of deal making, when information is limited and no previous relationship exists. Rather than the "leap of faith" or initial trusting step proposed in other studies (Maxwell & Lévesque, 2011; Shepherd & Zacharakis, 2001; Welter, 2012), our research suggests that institutionally based trust can be built through information that, in effect, signals not the intrinsic quality of a particular tie (because so little can be known at this point about particular ties), but its relative quality compared with other ties. By informing the selection of ties for further development, the application of institutionally based trust, thus, enables a more process-based form of trust to emerge around the strong collaborative ties of the later phase. Unlike the process-based account of trust development proposed by Lewicki and Bunker (1996) then, this explanation grounds the early-phase building of trust in actors selecting between multiple ties, and not in the dynamics of a dyadic tie.

Implications for Further Research

The process model outlined above helps integrate insights from the different perspectives previously applied to deal making. Our understanding of the decision criteria for investments, for example, may benefit from greater recognition of differences in the forms and costs of trust as deal-making progresses from a large number of arms-length ties to a smaller number of more exclusive ties (Baum & Silverman, 2004; Maxwell et al., 2011; Payne et al., 2009). There is also a need for further research on the expectations of success and signals of credibility in the deal-making process for various stakeholders. Work in these areas could respond to the recent call for research on the factors that build trust in different contexts (Welter, 2012), including early versus later periods in the development of a tie (McKnight & Chervany, 2006). In contributing to this work, our findings show how the temporal ordering of contexts influences both the building of trust and its outcomes.

Further, while the deal-making process rather than network structures was the focus of our study, our findings on the role of trust also speak to research on the development of networks and relational embeddedness within entrepreneurial settings (Hite, 2004), by highlighting trust as an important enabler of the integration of weak and strong tie networks by deal-makers. More broadly, our findings on the importance of information exchange add to an emerging strand of work that views information signals and social ties in these settings not as substitutes, as in previous work (Podolny, 1994), but as involving a complementary interplay between information exchanges and "network actions," such as tie formation and selection (Hallen & Eisenhardt, 2012).

Conclusions

To return to the introductory questions of this paper, we have sought to establish whether and how trust could support deal-makers in integrating the networks of strong and weak ties required for successful deal making. We observed in our study how deal-makers were able to do this by drawing on different forms of trust that enabled them to accept the risk and vulnerability involved in selecting and developing particular ties. The analysis of our empirical study suggested that three features of the role of trust were crucial to this outcome. First, signals of institutionally based trust supported the initial selection of ties under conditions of uncertainty, thus overcoming the paradox of developing trust in a particular weak tie. Second, the development of ties over time enabled a new mode of information exchange (characterized as "sharing" versus "signaling") that helped build the process-based form of trust required for late-phase collaboration between deal-makers. Third, we observed in our empirical study how deal-makers relied differentially on forms of trust across phases of deal making. This shift between different forms of trust seems to have enabled deal-makers to operate more efficiently—exploiting the cheapest available information sources to gain the positive benefits of trust without incurring too many of its costs. Thus, where previous studies have suggested that trust is an unavoidable necessity in early-stage entrepreneurial settings because of a lack of information (Aldrich & Fiol, 1994), our study suggests a more positive view—that gathering the information to build different forms of trust helps deal-makers better contextualize and exploit the information available in different phases of the deal-making process.

This study is not without limitations. Its qualitative approach limits its generalizability (Yin & Campbell, 2003). The use of interview data around critical incidents helps provide an insight into the deal-making process as a whole, but at the expense of our ability to quantify the variables involved, or to track that process or associated network ties longitudinally.

Policy and Practitioner Implications

Although exploratory, the findings of our study have important implications for actors involved in the deal making around early-stage technology ventures. For public policy makers, our discussion of the role of institutionally based trust highlights the need for strong institutions in relation to intellectual property, corporate governance, and technology transfer to economize on the information needed to build trust in the early phase of deal making.

For entrepreneurs and investors, our study underlines the social and networked character of the deal-making process. Deal-makers' willingness to invest time and accept opportunity costs is based on initial assessments of certain ties relative to other ties. To influence investors' decision making, therefore, entrepreneurs need to build trust gradually by linking the kinds of information exchanged to a form of trust appropriate to the strength of their relationship. This involves attuning their information exchanges temporally, symbolically, and materially to particular phases of deal making. This may be more of a challenge for new entrepreneurs than investors in the early-stage technology arena, but our analysis of what builds trust applies to both sets of actors. Entrepreneurs need to put potential investors through a due diligence process as well, and not base their trust on the possession of financial resources alone.

While the analysis presented here is not a normative one, it does suggest that by relying on different types of trust, investors will be more efficient and effective in exploiting the wide range of weak ties needed for the sourcing and evaluation of

opportunities. This reduces the risk of "over-trusting" (Zahra et al., 2006) by allowing deal-makers to make better and cheaper use of the information available in selecting ties, thereby limiting investments in time and resources to higher quality opportunities.

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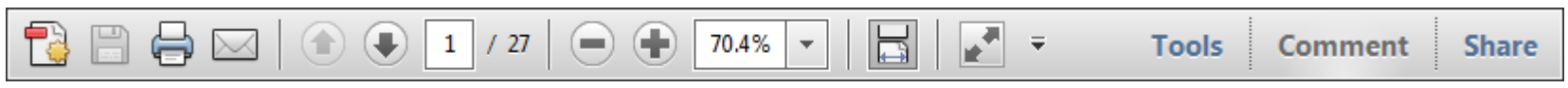

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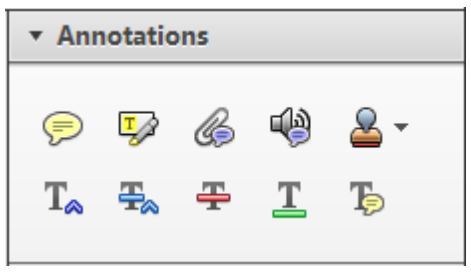

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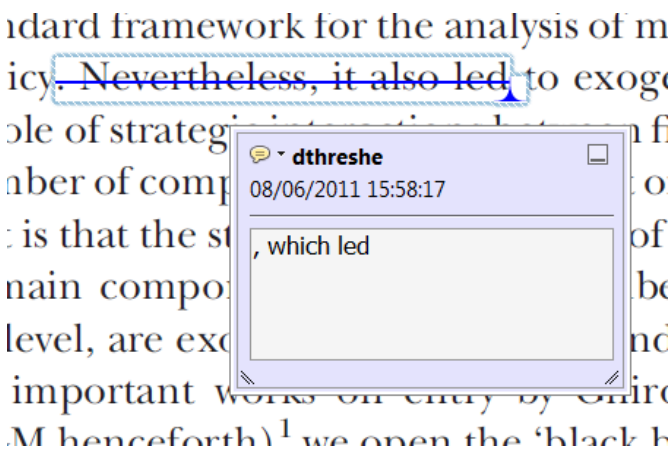

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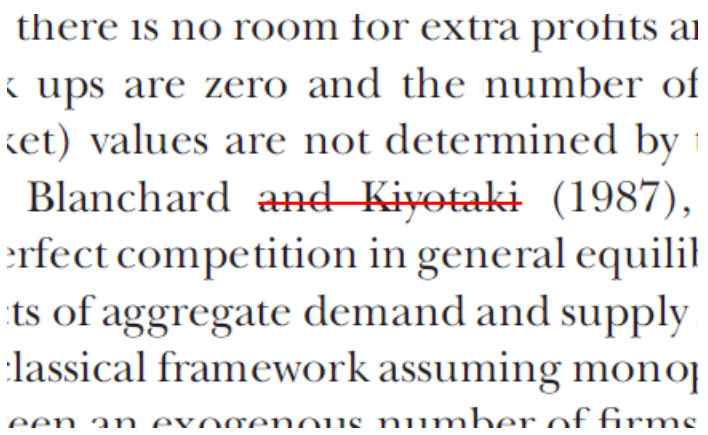

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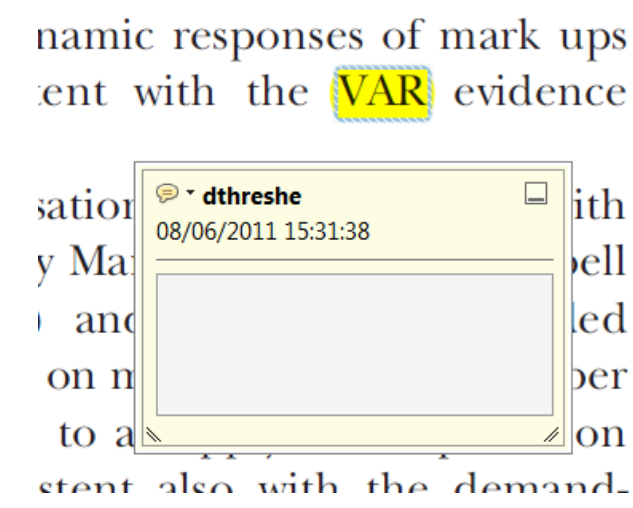

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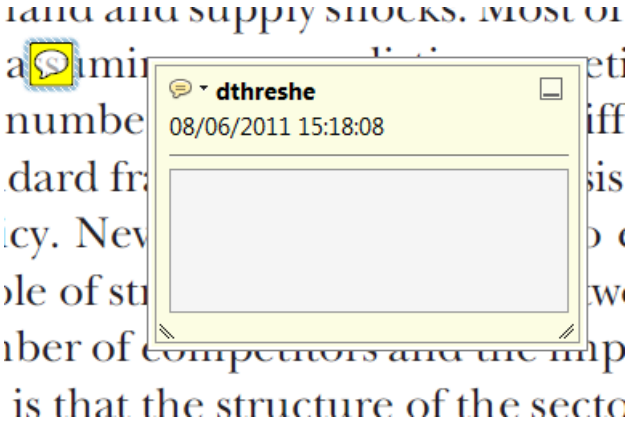

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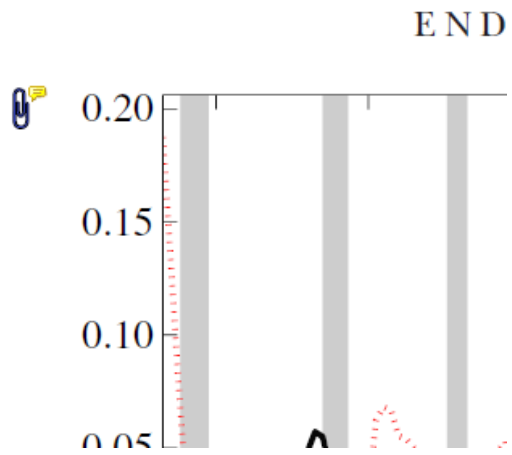

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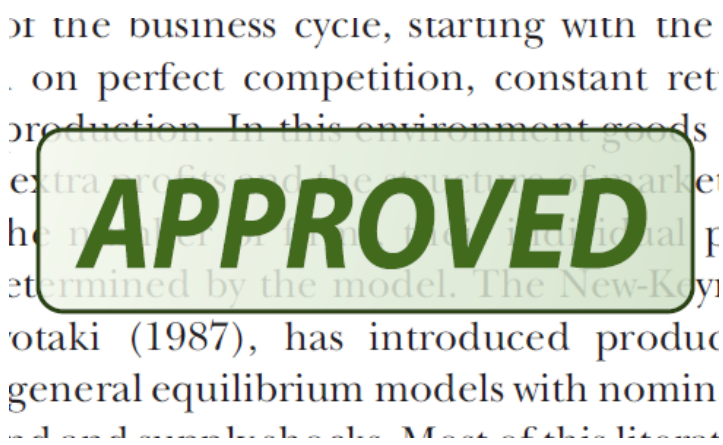

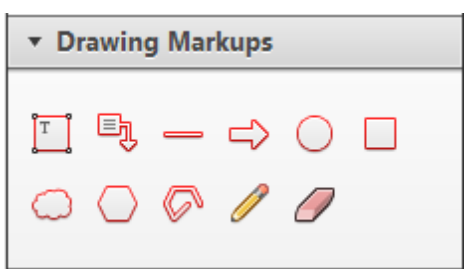

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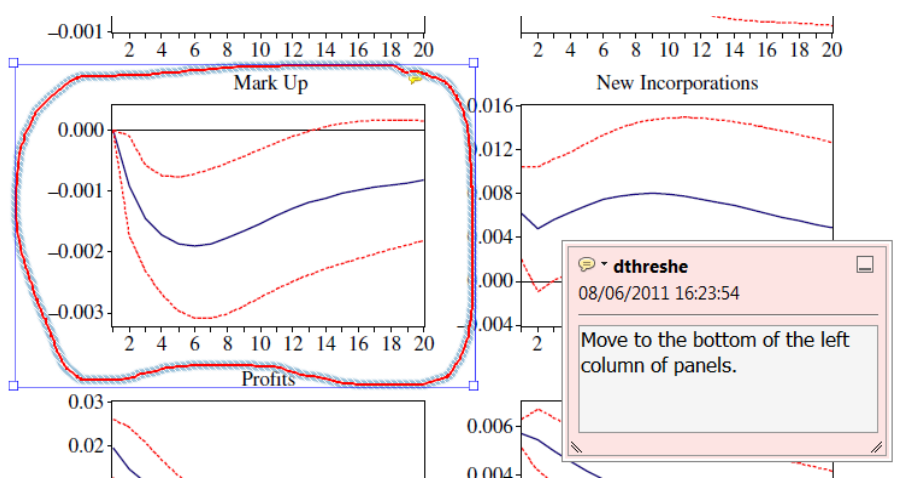

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